PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of **PCT/EP01/05132**

Juergen SIENEL, et al. Attorney Docket No. Q68560

Appln. No.: Not Assigned Group Art Unit: Not Assigned

Confirmation No.: Not Assigned Examiner: Not Assigned

Filed: February 27, 2002

For: NOISE REDUCTION SYSTEM, AND METHOD

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

IN THE SPECIFICATION:

The specification is changed as follows:

Said noise reduction system according to the invention could for example be used in a Distributed Speech Recognition environment (DSR), like a terminal and/or a network. The document US 5,809,464 discloses a dictating mechanism based upon distributed speech recognition (DSR). Other documents being related to DSR are for example EP00440016.4 (corresponding to U.S. Patent Application No. 09/760,794 filed January 17, 2001) and EP00440057.8 (corresponding to U.S. Patent Application No. 09/789,808, filed February 22, 2001). The document EP00440087.5 (corresponding to U.S. Patent Application No. 09/791,562 filed February 26, 2001) discloses a system for performing vocal commanding. The document US 5,794,195 discloses a start/end point detection for word recognition. The

document US 5,732,141 discloses a voice activity detection. Neither one of these documents discloses the noise reduction system according to the invention. All references including further references cited with respect to and/or inside said references (and/or including the article "Frequency domain noise suppression approaches in mobile systems", by Jin Yang, ICASSP-1993, Volume II, 0-7803-0946-4/93, 1993 IEEE, four pages) are considered to be incorporated in this patent application.

IN THE CLAIMS:

Please enter the following amended claims:

4. (Amended)Noise reduction system according to claim 1, characterised in that said noise estimation per input signal starts with averaging each input signal received during several time-intervals.

5. (Amended)Noise reduction system according to claim 1, characterised in that said noise reduction system comprises a smoother for receiving said correction signals and smoothing them and supplying them to said combiner.

6. (Amended)Noise reduction system according to claim 1, characterised in that said converter performs said conversions at the hand of tables, with said adaptation signals adapting said tables.

7. (Amended)Noise reduction system according to claim 1, characterised in that said converter performs said conversions at the hand of functions, with said adaptation signals adapting said functions.

IN THE ABSTRACT:

Please add the following new Abstract of the Disclosure.

ABSTRACT

Noise reduction systems include an input for receiving per time-interval input signals originating from a Fast Fourier Transformator (frequency-components + values/amplitudes), a noise estimator coupled to the input for performing noise estimations per input signal, a converter coupled to the noise estimator for performing conversions of the noise estimations and for generating correction signals and a combiner coupled to the converter and to the input for generating per time-interval output signals (input signals minus correction signals = frequency - components + values/amplitudes with reduced noise). By introducing adaptation signals for adapting the conversions, the noise reduction systems become dynamic and more flexible.

REMARKS

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

On page 4, please amend the fifth full paragraph beginning with "Said noise reduction system according" as follows:

Said noise reduction system according to the invention could for example be used in a Distributed Speech Recognition environment (DSR), like a terminal and/or a network. The document US 5,809,464 discloses a dictating mechanism based upon distributed speech recognition (DSR). Other documents being related to DSR are for example EP00440016.4 (corresponding to U.S. Patent Application No. 09/760,794 filed January 17, 2001) and EP00440057.8 (corresponding to U.S. Patent Application No. 09/789,808, filed February 22, 2001). The document EP00440087.5 (corresponds to U.S. Patent Application No. 09/791,562 filed February 26, 2001) discloses a system for performing vocal commanding. The document US 5,794,195 discloses a start/end point detection for word recognition. The document US 5,732,141 discloses a voice activity detection. Neither one of these documents discloses the noise reduction system according to the invention. All references including further references cited with respect to and/or inside said references (and/or including the article "Frequency domain noise suppression approaches in mobile systems", by Jin Yang, ICASSP-

1993, Volume II, 0-7803-0946-4/93, 1993 IEEE, four pages) are considered to be incorporated in this patent application.

IN THE CLAIMS:

The claims are amended as follows:

4. (Amended)Noise reduction system according to ~~claim 1, 2 or 3~~claim 1, characterised in that said noise estimation per input signal starts with averaging each input signal received during several time-intervals.

5. (Amended)Noise reduction system according to ~~claim 1, 2, 3 or 4~~claim 1, characterised in that said noise reduction system comprises a smoother for receiving said correction signals and smoothing them and supplying them to said combiner.

6. (Amended)Noise reduction system according to ~~claim 1, 2, 3, 4 or 5~~claim 1, characterised in that said converter performs said conversions at the hand of tables, with said adaptation signals adapting said tables.

7. (Amended)Noise reduction system according to ~~claim 1, 2, 3, 4 or 5~~claim 1, characterised in that said converter performs said conversions at the hand of functions, with said adaptation signals adapting said functions.

IN THE ABSTRACT OF DISCLOSURE:

An Abstract has been added.